

AMENDMENTS
In the Claims

Current Status of Claims

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100.(currently amended) A flexible laminate comprising a monofilm-formed or multifilm-formed flexible ply A, and ~~another~~ a monofilm-formed or multifilm-formed flexible ply B, both comprising orientable thermoplastic polymer materials, in which the ply A has a fluted configuration and the ply B on a first side is adhesively bonded in bonding zones to crests on a first side of the ply A,

where:

(a) the ply B also has a fluted configuration, a flute direction of the ply B forms an angle from about 30° up to and including 90° to a flute direction of the ply A and the bonding zones being on crests of the first side of the ply B to produce spot bonds with the crests on the first side of the ply A,

(b) the adhesive bonding is

(i) directly between the ply A to the ply B and established through a lamination layer on the ply A and/or the ply B;

(ii) established through a separate thin bonding film; or

(iii) through a fibrous web adapted for bonding, ~~and~~

(c) wavelengths of the flutes in the ply A and/or the ply B are no longer than 5 mm, and the wavelengths of the flutes in both the ply A and the ply B are less than 10 mm, and

18 (d) the ply A is molecularly oriented in a direction parallel or substantially parallel to its
19 flute direction as determined by shrinkage tests ~~the bonding forms channels by the~~
20 ~~flutes in the ply A and the ply B, at least some of the channels filled with a filling~~
21 ~~material, where the material is a preservative for goods intended to become packed~~
22 ~~in or protected by the laminate, and where the preservative is selected from the group~~
23 ~~consisting of an oxygen scavenger, ethylene scavenger, and a biocide.~~

1 101.**(currently amended)** The laminate according to claim 100, wherein either a thickness of
2 each of the plies is substantially the same in the bonding zones and non-bonding zones, or at least
3 one of the plies exhibits first zones extending parallel to the flute direction, each bonding zone being
4 substantially located within ~~a~~ the first attenuated zones whereby each first attenuated zone is
5 understood as delimited by the positions where the thickness is an average between a minimum
6 thickness of this ply within the first attenuated zones and a ply's maximum thickness within adjacent
7 non-bonding zones.

1 102.**(previously presented)** The laminate according to claim 100, wherein the flute wavelength
2 in each of the two plies is no more than 4 mm.

1 103.**(previously presented)** The laminate according to claim 100, wherein each of the two plies
2 a curved length of a flute is on average at least 5% longer than the linear wavelength, the curved
3 length being understood as the length of a curve through a cross section of a full flute wave including
4 the bonding zone which curve lies in the middle between the two surfaces of the ply.

104.**(canceled)**

1 105.**(previously presented)** The laminate according to claim 103, wherein a width of each bonding
2 zone in at least one of the two plies is no less than 15% of the flute wavelength.

1 106.**(previously presented)** The laminate according to claim 100, wherein the flutes in at least one
2 of the two plies are evenly formed and extend in a substantially rectilinear shape.

1 107.**(previously presented)** The laminate according to claim 100, wherein the flutes in at least one
2 of the two plies, while extending substantially along one direction, are curved, or zig-zagged and/or
3 branched.

1 108.**(previously presented)** The laminate according to claim 100, wherein the flutes in at least one
2 of the two plies, while extending substantially along one direction, are differently shaped in a pattern
3 which gives a visual effect showing a name, text, logo or similar visual effect.

1 109.**(previously presented)** The laminate according to claim 100, wherein at least one of the two
2 plies has a metallic or iridescent gloss, or the two plies have different colors.

1 110.**(previously presented)** The laminate according to claim 100, wherein the flute direction of
2 the ply A is substantially perpendicular to the flute direction of the ply B.

1 111.**(previously presented)** The laminate according to claim 110, wherein one of the two flute
2 directions essentially coincide with a machine direction of lamination.

1 112.**(canceled)**

1 113.**(currently amended)** The laminate according to claim ~~H2~~101, wherein the ply B is
2 molecularly oriented and a ply B's orientation outside its first attenuated zones, if such zones are
3 present, is higher than a ply A's average orientation in the same direction outside its first attenuated
4 zones, if such zones are present, the two orientations being observable by shrinkage tests.

1 114.**(currently amended)** The laminate according to claim ~~H2~~101, wherein a yield tension in
2 the ply A in a direction parallel to its flute direction and/or a yield tension in the ply B in a direction
3 parallel to its flute direction, both referring to the cross- section of the respective ply and determined
4 in non-bonded narrow strips at an extension velocity of 500%min⁻¹, is no less than 30 MPa.

1 115.**(previously presented)** The laminate according to claim 100, wherein the ply B has a lower
2 coefficient of elasticity than the ply A, both as measured in the direction perpendicular to the flute
3 direction of the ply A.

1 116.**(currently amended)** The laminate according to claim ~~112~~101, wherein the choice of
2 material for the ply B and of depth of the ply A's fluting is such that by stretching of the laminate
3 perpendicular to the direction of the ply A's fluting up to the point where the ply A's waving has
4 disappeared, the ply B still has not undergone any significant plastic deformation.

1 117.**(currently amended)** The laminate according to claim ~~112~~101, wherein the ply B, outside
2 its first attenuated zones if such zones are present, has a main direction of molecular orientation
3 parallel to the direction of the flutes or in a direction close to the latter as provable by shrinkage tests.

1 118.**(currently amended)** The laminate according to claim ~~112~~101, wherein the ply A is
2 composed of several films, and the ~~said~~ main direction of molecular orientation, is the resultant of
3 different monoaxial or biaxial orientations in the ~~said~~ films optionally mutually differently directed.

1 119.**(currently amended)** The laminate according to claim 117, wherein the ply B is composed
2 of several films, and the ~~said~~ main direction of orientation is the resultant of different monoaxial or
3 biaxial orientations in the ~~said~~ films optionally mutually differently directed.

1 120.**(currently amended)** The laminate according to claim 101, wherein the first attenuated
2 zones are present in at least one of the two plies and if the first attenuated zones extend in their
3 transverse direction beyond corresponding bonding zones into adjacent non-bonding zones, the
4 extensions within each non-bonding zone are limited to a total width which leaves more than half
5 of ~~of~~ a width of the non-bonding zone as not belonging to any first attenuated zone, these widths
6 being the distances measured along the curved surfaces.

1 121.**(previously presented)** The laminate according to claim 101, wherein the first attenuated
2 zones are present in at least one of the plies and in which the bonding zones are substantially

3 coincident with the first attenuated zones.

1 122.**(previously presented)** The laminate according to claim 101, wherein the first attenuated
2 zones are present at least in one of the two plies and characterized by second solid-state-attenuated
3 zones between each pair of adjacent first attenuated zones, the second attenuated zones being
4 narrower than the first attenuated zones and located on non-bonded crests of the respective ply.

1 123.**(previously presented)** The laminate according to claim 101, wherein at least one of the two
2 plies exhibits solid-state-attenuated zones wherein the first attenuated zones of the ply are attenuated
3 so that the minimum thickness in such zone is less than 75% of the maximum thickness of the ply
4 in the non-bonded zones.

1 124.**(previously presented)** The laminate according to claim 100, wherein the ply A and the ply
2 B comprise a material which is orientable at room temperature.

1 125.**(currently amended)** The laminate according to claim 100, wherein the spot bonds between
2 the plies A and B is effected through a lower melting surface layer co-extruded on at least one of the
3 plies, formed in a coextrusion process.

1 126.**(previously presented)** The laminate according to claim 100, wherein at least one of the plies
2 comprises a barrier film designed for protection against oxygen or other gaseous materials.

1 127.**(currently amended)** The laminate according to claim 100, wherein at least some of the
2 flutes in one or both plies are flattened at intervals and bonded across each ones entire width at the
3 flattened locations to make two arrays of flutes to form closed pockets.

1 128.**(previously presented)** The laminate according to claim 127, wherein the flattened portions
2 of a number of mutually adjacent flutes or of all flutes are in an array.

1 129.**(previously presented)** The laminate according to claim 100, wherein by the choice of

2 polymer material or by an incorporated filler or by orientation, a coefficient of elasticity E in at least
3 one of the plies, measured in the non-bonding zones of the ply in the direction parallel to the flute,
4 as an average over the non-bonding zones is no less than 700 MPa.

130.(canceled)

131.(canceled)

1 132.(previously presented) The laminate according to claim 100, wherein both the ply A and the
2 ply B are supplied with a multitude of perforations, whereby the perforations do not reach into the
3 spot bonds, and the perforations in the ply A are displaced from the perforations in the ply B so as
4 to cause gas or liquid when passing through the laminate, to run a distance through the flutes
5 substantially parallel to the main surfaces of the laminate; channels formed by the flutes may be
6 closed to form pockets.

133.(canceled)

1 134.(currently amended) The laminate according to claim ~~133~~116, wherein by choice of
2 hydrophobic properties of at least the inner surfaces of the channels or pockets formed by the flutes
3 and by selected small spacing of said channels or pockets, and choice of the distances between the
4 mutually displaced perforations in the ply A and the ply B, there is achieved a desirable balance
5 between the pressure needed to allow water through the laminate and the laminate's capability to
6 allow air and vapour to pass therethrough.

1 135.(currently amended) The laminate according to claim 132, further comprising ~~fibre-film~~
2 portions of the fibrous web protruding from borders of the perforations of at least on one surface of
3 the laminate.

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1 199.(previously presented) The laminate according to claim 102, wherein the flute wavelength
2 in each of the two plies is no more than 3 mm.

1 200.(previously presented) The laminate according to claim 102, wherein the flute wavelength
2 in each of the two plies is no more than 2 mm.

1 201.(previously presented) The laminate according to claim 103, wherein each of the two plies
2 the curved length of a flute is on average at least 10% longer than the linear wavelength.

1 202.(previously presented) The laminate according to claim 105, wherein the width of each
2 bonding zone in at least one of the two plies is no less than 20% of the flute wavelength.

1 203.(previously presented) The laminate according to claim 105, wherein the width of each
2 bonding zone in at least one of the two plies is no less than 30% of the flute wavelength.

1 204.(currently amended) The laminate according to claim 114, wherein the yield tension in the
2 ply A in a direction parallel to its flute direction and/or the yield tension in the ply B in a direction
3 parallel to its flute direction, both referring to the cross-section of the respective ply and determined
4 in non-bonded narrow strips at an extension velocity of $500\% \text{min}^{-1}$, is no less than 50 MPa and still
5 more preferably no less than 75 MPa.

1 205.(previously presented) The laminate according to claim 114, wherein the yield tension in the
2 ply A in a direction parallel to its flute direction and/or the yield tension in the ply B in a direction
3 parallel to its flute direction, both referring to the cross-section of the respective ply and determined

4 in non-bonded narrow strips at an extension velocity of 500%/min⁻¹, is no less than 75 MPa.

1 206.**(previously presented)** The laminate according to claim 116, wherein the ply B comprises a
2 thermoplastic elastomer.

1 207.**(previously presented)** The laminate according to claim 120, wherein the total width of the
2 extensions leaves no less than 70% of the width of the non-bonding zone as not belonging to any
3 first attenuated zone.

1 208.**(previously presented)** The laminate according to claim 122, wherein the first attenuated
2 zones of the ply are attenuated so that the minimum thickness in such zone is less than 50% of that
3 maximum thickness.

1 209.**(previously presented)** The laminate according to claim 122, wherein the first attenuated
2 zones of the ply are attenuated so that the minimum thickness in such zone is less than 30% of that
3 maximum thickness.

1 210.**(previously presented)** The laminate according to claim 123, wherein the ply A and the ply
2 B comprise a polyolefin.

1 211.**(currently amended)** The laminate according of claim 129, wherein the ~~the~~ average over the
2 non-bonding zone is no less than 1000 MPa.

212.**(canceled)**

1 213.**(currently amended)** The laminate according to claim ~~131~~216, wherein the laminate further
2 includes micro-perforations established in the flutes, which enhance the effect of the preservative.

214.**(canceled)**

215.**(canceled)**

1 216.**(new)** The laminate according to claim 100, wherein at least some of the channels formed

2 by the flutes in the ply A and the ply B, which channels may be closed to pockets, contain a filling
3 material in particulate, fibrous, filament or liquid form.

1 217.(new) The laminate according to claim 216, wherein the material is a preservative for goods
2 intended to become packed in or protected by the laminate, a corrosion inhibitor or a fire
3 extinguishing agent.

1 218.(new) The laminate according to claim 132, wherein the channels or pockets contain filling
2 material adapted to act as a filter material by holding back suspended particles from a fluid passing
3 through the channels or pockets or is an absorbent or ion-exchanger capable of absorbing or
4 ion-exchanging matter dissolved in such fluid, the filler optionally being fibre-formed or
5 yarn-formed.

1 219.(new) The laminate according to claim 134, used as a sanitary backsheet, on a diaper or as
2 a sheet for covering a patient during surgery.

1 220.(new) The laminate according to claim 134, used for insulation of buildings.

1 221.(new) The laminate according to claim 132, used as a geotextile which allows water to pass
2 but holds fine particles back.

1 222.(new) A bag made from the laminate according to claim 100, wherein the flutes on one of
2 the two major surfaces of the bag are substantially perpendicular to the flutes on the other major
3 surface of the bag.

1 223.(new) The laminate according to claim 217, wherein the preservative is selected from the
2 group consisting of an oxygen scavenger, ethylene scavenger, and a biocide.